



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/665,278

09/19/2003

Hideo Morimoto

07700.042001

5463

7590

09/16/2004

Jonathan P. Osha
Rosenthal & Osha L.L.P.
1 Houston Center, Suite 2800
1221 McKinney Avenue
Houston, TX 77010

EXAMINER

DAVIS, OCTAVIA L

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,278

Applicant(s)

MORIMOTO, HIDEO

Examiner

Octavia Davis

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/9/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 4 and 8 – 15 are rejected as being anticipated by Bourland et al.

Regarding claim 1, Bourland et al disclose a pressure mapping system with a capacitive measuring pad comprising a sensor sheet 10 wherein a plurality of sensors 24, which are each capable of recognizing multiple different direction components of an applied outside force, are arranged on substantially the same plane (See Col. 4, lines 5 – 23 and Col. 6, lines 27 – 33).

Regarding claim 2, the sensor comprises first electrodes 22 corresponding to the multiple directions, and a second electrode 24, which is opposite the first electrodes to form capacitance elements Co – C8 between the first electrodes and the second electrode and which is displaceable in a direction of being close to the first electrodes with the applied force, and wherein the sensor is a capacitance type sensor that is capable of sensing the force, based on the detection of capacitance changes in capacitance values of the capacitance elements caused by changes in intervals between the first electrodes and the second electrode by using a signal input to the first electrode (See Col. 4, lines 24 – 65).

Regarding claim 3, a third electrode 24 is adjacent to the first electrodes, wherein the second electrode is kept in an insulating state, and the third electrode is connected to ground

Art Unit: 2855

23, and wherein the second electrode and the third electrode are arranged so that when the force is applied to the sensor sheet, the second electrode and the third electrode are contactable with each other (See Col. 5, lines 29 – 43).

Regarding claim 4, the sensor comprises a pressure-sensitive resistance member 20 arranged between the first electrodes and the second electrode (See Col. 4, lines 18 – 24).

Regarding claim 8 – 11, the sensors 22, 24 are arranged in a matrix (See Col. 4, lines 24 – 31).

Regarding claims 12 – 15, the plane receiving the applied force has no projections and depressions (See Fig. 2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 - 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourland et al in view of Morimoto et al.

Regarding claims 5 – 7, Bourland et al disclose all of these limitations except for a teaching that the sensor comprises a core member formed of a rigid material that causes the second electrode to be displaced by the outside force. However, Morimoto et al disclose an electrostatic capacitive touch sensor comprising an operation portion 20a to which a plurality of forces F_x , F_y , F_z are applied thereon, the stress being concentrated

Art Unit: 2855

on a diaphragm section 20c resulting in the displacement of electrodes D (See Col. 5, lines 23 – 31, 35 – 48 and 64 – 67 and Col. 6, lines 1 – 28).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bourland et al according to the teachings of Morimoto et al for the purpose of, providing a high sensitivity sensor that includes a plurality of electrostatic capacitive sections formed by a group of fixed electrodes and movable electrode plate so that, in response to the magnitude and direction of a force applied onto the movable electrode plate, the capacitances of the respective capacitance sections are allowed to change (See Morimoto et al, Col. 1, lines 55 – 60).

Conclusion

5. Any inquiry concerning this communication should be directed to Examiner Octavia Davis at telephone number (571) 272 - 2176. The examiner can normally be reached on Monday - Thursdays (9:00 - 5:00), Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on (571) 272 - 2180. The fax phone number for the organization where this application where this application or proceeding is assigned is (703) 872 – 9306.

OD/2855

9/13/04

EDWARD LEFKOWITZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800